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TRANSMITTAL FORM

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First Named Inventor	Walter F. Rausch
Art Unit	2618
Examiner Name	Tuan A. Tran
Attorney Docket Number	1604

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment / Reply
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  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
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- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
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- ☐ Drawing(s)
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- ☒ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) *(please identify below)*:

Remarks **It is believed that no fees are due in this matter. However, if it is determined that fees are due, the Commissioner is authorized to debit Deposit Account No. 210765 for the required fees.**

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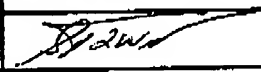
Firm	Setter Ollila LLC		
Signature			
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PATENT APPLICATION

ATTORNEY DOCKET NO. 1604

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Walter F. Rausch

Serial No.: 10/083,165 **Examiner:** Tuan A. Tran

Filing Date: 02/26/2002 **Group Art Unit:** 2618

Title: COMMUNICATION SYSTEM WITH TWO ANTENNAS AND TWO RECEIVERS

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BRIEF ON APPEAL

INTRODUCTION

Pursuant to the provisions of 37 CFR § 1.191 *et seq.*, applicants hereby appeal to the Board of Patent Appeals and Interferences (the "Board") from the examiner's final rejection dated 2/24/2005. A notice of appeal was sent on the same day as this appeal brief. This brief on appeal is being filed in triplicate (37 CFR § 1.192(a)) and is accompanied by the requisite fee (37 CFR 1.192(a) and 1.17(f)).

REAL PARTY IN INTEREST

The entire interest in the present application has been assigned to Sprint Communications as recorded at Reel 013204, Frame 0717.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1 – 26 are pending.

Claims 1 – 26 have been finally rejected.

Claims 1 – 26 are on appeal.

STATUS OF AMENDMENTS

There are no pending amendments.

SUMMARY OF CLAIMED SUBJECT MATTER

This invention generally relates to field of communication systems, and in particular to a communication system using multiple receiving antennas.

The transmitter antenna is omni-directional and broadcasts data from the head end to the customers on the downstream channels. In a two-way wireless system, the receiver antennas are positioned to receive MMDS signals transmitted from customers to the head end on the upstream channels. Each receiver antenna is positioned to receive MMDS signals from customers located within a certain area. The areas formed by the antennas are referred to as sectors. The sectors have designated frequency ranges or designated channels. (Page 4 Lines 19 – 25).

In this broadband wireless system, the downstream channels handle more capacity than upstream channels due to licensing requirements for MMDS. In order to increase upstream capacity, the broadband wireless system receives wireless signals from 45 degree sectors. However, the 45 degree sectors in the broadband wireless system do not have the capacity to support numerous users in a metropolitan area. (page 5 lines 22 – 27).

One way to increase capacity is to have a first receiving antenna that has a first coverage area of less than forty five degrees. The first receiver receives second wireless signals via the first

receiving antenna. Having a second receiving antenna that has a second coverage area of less than forty five degrees, and the second coverage area of the second receiving antenna is within the first coverage area. (page 7 lines 2 – 6 and see figure 10).

In some embodiments, the first coverage area of the first receiving antenna is thirty six degrees. In other embodiments, the first coverage area of the first receiving antenna is twenty four degrees. In some embodiments, the second coverage area of the second receiving antenna is twenty four degrees. In other embodiments, the second coverage area of the second receiving antenna is twelve degrees.

When a three hundred and sixty degree coverage area is divided into smaller coverage areas, the capacity of users in the communication systems is increased because more equipment is used to serve the smaller coverage areas. Also, with smaller coverage area, users have better response time because their respective equipment for the smaller coverage area handles less overall users. Smaller coverage area also reduces interference problems associated with re-reflection. (page 7 Lines 16 – 27).

The claimed subject matter of claim 1 is a communication system for providing communication services to a plurality of communication devices, the communication system comprising: a transmitting antenna; a transmitter connected to the transmitting antenna and configured to transmit first wireless signals via the transmitting antenna (page 19 lines 2 – 9) ; a first receiving antenna wherein a first coverage area of the first receiving antenna is less than forty five degrees; a first receiver connected to the first receiving antenna and configured to receive second wireless signals via the first receiving antenna; a second receiving antenna wherein a second coverage area of the second receiving antenna is less than forty five degrees and the second coverage area of the second receiving antenna is within the first coverage area (page 31 lines 5 – 21); a second receiver connected to the second receiving antenna and configured to receive third wireless signals via the second receiving antenna; and a communication interface connected to the transmitter, the first receiver, the second receiver, and a communication network and configured to provide the communication services between the communication network and the user communication devices (page 31 lines 22 – 27).

The claimed subject matter of claim 14 is a method for providing communication services to a plurality of communication devices, the method comprising: in a transmitter, transmitting

first wireless signals via a transmitting antenna (page 19 lines 2 – 9); in a first receiver, receiving second wireless signals via a first receiving antenna wherein a first coverage area of the first receiving antenna is less than forty five degrees (page 31 lines 5 – 21); in a second receiver, receiving third wireless signals via a second receiving antenna wherein a second coverage area of the second receiving antenna is less than forty five degrees and the second coverage area of the second receiving antenna is within the first coverage area; and in a communication interface connected to the transmitter, the first receiver, the second receiver, and a communication network, providing the communication services between the communication network and the user communication devices (page 31 lines 22 – 27).

Grounds of rejection to be reviewed on appeal

1. Whether claims 1 – 26 are anticipated under 35 U.S.C. § 102(e) by U.S. Publication 2002/0068612 (Carey et al.).

ARGUMENT

OUTLINE

I. Summary of the brief on appeal.

II. Summary of the requirements for *prima facie* anticipation.

III. Claims 1 – 26 rejection.

I. Summary of the brief on appeal

A. The 35 U.S.C. § 102(e) rejection of claims 1 – 26 is improper because a *prima facie* case for anticipation has not been established, for the following reasons: (1) the cited art does not teach or suggest every element of the claims, (2) the examiner incorrectly characterizes the cited art.

II. Summary of the requirements for *prima facie* anticipation.

MPEP 2131

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California,* 2 USPQ2d 1051, 1053 (Fed Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

"The elements must be arranged as required by the claim, but ... identity of terminology is not required." *In re Bond,* 15 USPQ2d 1566 (Fed. Cir. 1990).

III. Claims 1 – 26 rejection.

Claims 1 – 26 have been finally rejected under 35 U.S.C. § 102(e) as being anticipated by

U.S. Publication 2002/0068612 (Carey et al.). Some of the requirements for claim 1 are listed below:

a first receiving antenna wherein a first coverage area of the first receiving antenna is less than forty five degrees;

a first receiver connected to the first receiving antenna and configured to receive second wireless signals via the first receiving antenna;

a second receiving antenna wherein a second coverage area of the second receiving antenna is less than forty five degrees and the second coverage area of the second receiving antenna is within the first coverage area;

Claim 1 requires that a second receiving antenna have a coverage area that is within the coverage area of a first receiving antenna (see figure 10). Carey does not have a second receiving antenna that has a coverage are that is within the coverage area of another receiving antenna. Carey has transceivers that have overlapping coverage area (see figure 9 and 10) but Carey does not have a receiving antenna that has a coverage area that is within the coverage area of another receiving antenna as required by claim 1.The examiner has cited page 8 [0079], page 10 [0093], [0097], [0102], and page 11 [0103] as showing a second receiver with a second coverage area with another coverage area. The examiner has mischaracterized the cited art. Page 8 paragraph [0079] talks about using the same carrier frequency in different sectors, but does not mention anything about a first coverage area being within a second coverage area. Page 10 paragraphs [0093], [0097], and [0102] teach more about the sectored antenna in Carey and how each sector is adjacent to another sector. Page 11 paragraph [0103] talks about how there may be radiation overlap between the adjacent sectors "it should be appreciated that while sectors are referred to for purposes of the invention as non-overlapping geographic areas, one radiation pattern designated for a given sector may overlap with another radiation pattern designated for another sector." (emphases added)

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed Cir. 1987). Because Carey does not teach that a second coverage area of a second receiving antenna is within the first coverage area

of a first receiving antenna as required by claim 1, the examiner has not met the requirements for a *prima facie* case of anticipation, and claim 1 is allowable as written.

Claims 2 – 13 are dependent on allowable claim 1 and are therefore allowable.

The arguments for claim 1 (above) apply to claim 14 and claim 14 is therefore allowable.

Claims 15 – 26 are dependent on allowable claim 14 and are therefore allowable.

Conclusion

In view of the above, applicant respectfully request that the examiner's rejection of claims 1 – 26 be reversed.

The fee for filing a brief in support of an appeal was previously submitted on March 31, 2005. Therefore, it is believed that no fees are due in this matter. However, if it is determined that fees are due, the Commissioner is authorized to debit Deposit Account No. 210765 for the required fees or credit any overpayment.

Respectfully submitted,

Date: 5/8/06

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APPENDIX I
CLAIMS CURRENTLY PENDING

1. A communication system for providing communication services to a plurality of communication devices, the communication system comprising:

a transmitting antenna;

a transmitter connected to the transmitting antenna and configured to transmit first wireless signals via the transmitting antenna;

a first receiving antenna wherein a first coverage area of the first receiving antenna is less than forty five degrees;

a first receiver connected to the first receiving antenna and configured to receive second wireless signals via the first receiving antenna;

a second receiving antenna wherein a second coverage area of the second receiving antenna is less than forty five degrees and the second coverage area of the second receiving antenna is within the first coverage area;

a second receiver connected to the second receiving antenna and configured to receive third wireless signals via the second receiving antenna; and

a communication interface connected to the transmitter, the first receiver, the second receiver, and a communication network and configured to provide the communication services between the communication network and the user communication devices.

2. The communication system of claim 1 wherein the first wireless signals are in the Multichannel Multipoint Distribution Service (MMDS) frequency range.

3. The communication system of claim 1 wherein the first wireless signals are in the Multipoint Distribution Service (MDS) frequency range.

4. The communication system of claim 1 wherein the second wireless signals and the third wireless signals are in the Multichannel Multipoint Distribution Service (MMDS) frequency range.

5. The communication system of claim 1 wherein the second wireless signals and the third wireless signals are in the Multipoint Distribution Service (MDS) frequency range.

6. The communication system of claim 1 wherein the user communication devices comprise wireless broadband routers.

7. The communication system of claim 1 wherein the transmitting antenna comprises an omni-directional antenna.

8. The communication system of claim 1 wherein the first coverage area of the first receiving antenna is thirty six degrees.

9. The communication system of claim 1 wherein the first coverage area of the first receiving antenna is twenty four degrees.

10. The communication system of claim 1 wherein the second coverage area of the second receiving antenna is twenty four degrees.

11. The communication system of claim 1 wherein the second coverage area of the second receiving antenna is twelve degrees.

12. The communication system of claim 1 wherein the communication interface comprises a downstream manager.

13. The communication system of claim 1 wherein the communication interface comprises an upstream manager.

14. A method for providing communication services to a plurality of communication devices, the method comprising:

in a transmitter, transmitting first wireless signals via a transmitting antenna;

in a first receiver, receiving second wireless signals via a first receiving antenna wherein a first coverage area of the first receiving antenna is less than forty five degrees;

in a second receiver, receiving third wireless signals via a second receiving antenna wherein a second coverage area of the second receiving antenna is less than forty five degrees and the second coverage area of the second receiving antenna is within the first coverage area; and

in a communication interface connected to the transmitter, the first receiver, the second receiver, and a communication network, providing the communication services between the communication network and the user communication devices.

15. The method of claim 14 wherein the first wireless signals are in the Multichannel Multipoint Distribution Service (MMDS) frequency range.

16. The method of claim 14 wherein the first wireless signals are in the Multipoint Distribution Service (MDS) frequency range.

17. The method of claim 14 wherein the second wireless signals and the third wireless signals are in the Multichannel Multipoint Distribution Service (MMDS) frequency range.

18. The method of claim 14 wherein the second wireless signals and the third wireless signals are in the Multipoint Distribution Service (MDS) frequency range.

19. The method of claim 14 wherein the user communication devices comprise wireless broadband routers.

20. The method of claim 14 wherein the transmitting antenna comprises an omni-directional antenna.

21. The method of claim 14 wherein the first coverage area of the first receiving antenna is thirty

six degrees.

22. The method of claim 14 wherein the first coverage area of the first receiving antenna is twenty four degrees.

23. The method of claim 14 wherein the second coverage area of the second receiving antenna is twenty four degrees.

24. The method of claim 14 wherein the second coverage area of the second receiving antenna is twelve degrees.

25. The method of claim 14 wherein the communication interface comprises a downstream manager.

26. The method of claim 14 wherein the communication interface comprises an upstream manager.

APPENDIX II
EVIDENCE SUBMITTED

None submitted.

APPENDIX III
RELATED PROCEEDINGS

No related proceedings.